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KYLIN环境配置

实验文档

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**搭建Hadoop和kyin环境[[1]](#footnote-1)**

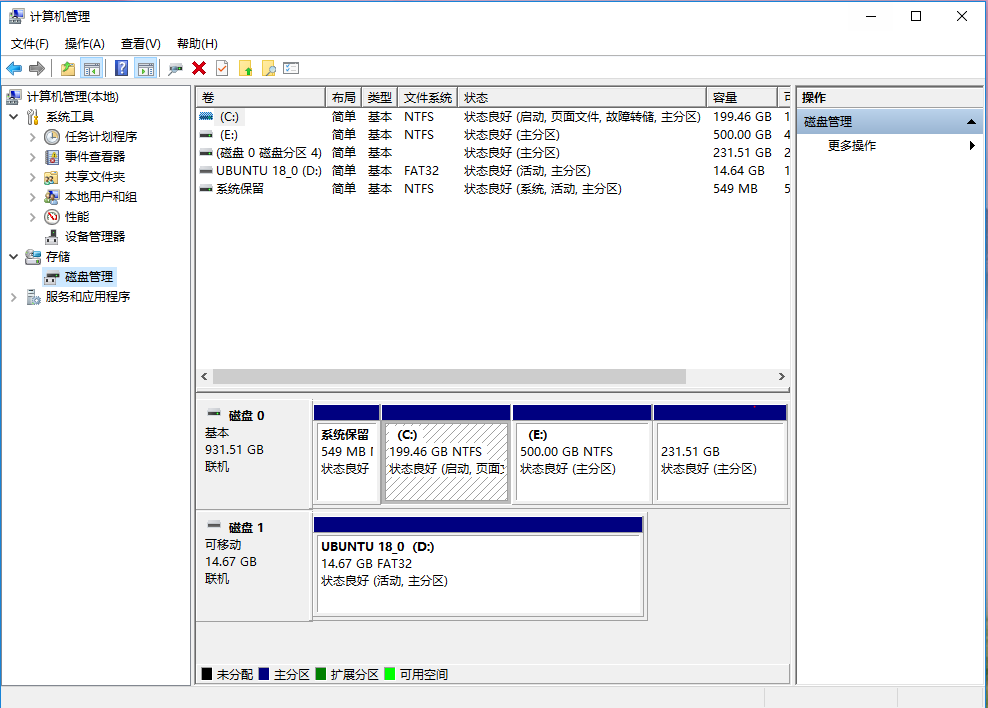
**摘要：**．此次报告主要展示了在ubuntu上搭建hadoop分布式系统基础架构，kylin分布式分析引擎环境的配置过程，及运行测试样例结果。

**关键字：**ubuntu；hadoop；kylin

**1 环境说明**

|  |  |  |
| --- | --- | --- |
| 项 | 版本 | 下载地址 |
| 操作系统 | ubuntu | https://mirrors.tuna.tsinghua.edu.cn/ubuntu-releases/18.04.1/ubuntu-18.04.1-desktop-amd64.iso |
| 制作USB系统启动盘 | Rufus | https://github.com/pbatard/rufus/releases/download/v3.3/rufus-3.3.exe |
| 2G u盘 | 空 | - |
| 软件名 | 版本 | 下载地址 |
| JDK | 1.8 | http://download.oracle.com/otn-pub/java/jdk/8u181-b13/96a7b8442fe848ef90c96a2fad6ed6d1/jdk-8u181-linux-x64.tar.gz |
| HADOOP | 2.8.4 | http://mirrors.shu.edu.cn/apache/hadoop/common/hadoop-2.8.4/hadoop-2.8.4.tar.gz |
| HIVE | 1.2.2 | http://mirrors.hust.edu.cn/apache/hive/hive-1.2.2/apache-hive-1.2.2-bin.tar.gz |
| HBASE | 1.2.6 | http://archive.apache.org/dist/hbase/1.2.6/hbase-1.2.6-bin.tar.gz |
| ZOOKEEPER | 3.4.10 | https://archive.apache.org/dist/zookeeper/zookeeper-3.4.10/zookeeper-3.4.10.tar.gz |
| KYLIN | 2.3.1 | https://archive.apache.org/dist/kylin/apache-kylin-2.3.1/apache-kylin-2.3.1-hbase1x-bin.tar.gz |
| mysql的驱动jar包 | 5.1.34 | http://central.maven.org/maven2/mysql/mysql-connector-java/5.1.34/mysql-connector-java-5.1.34.jar |

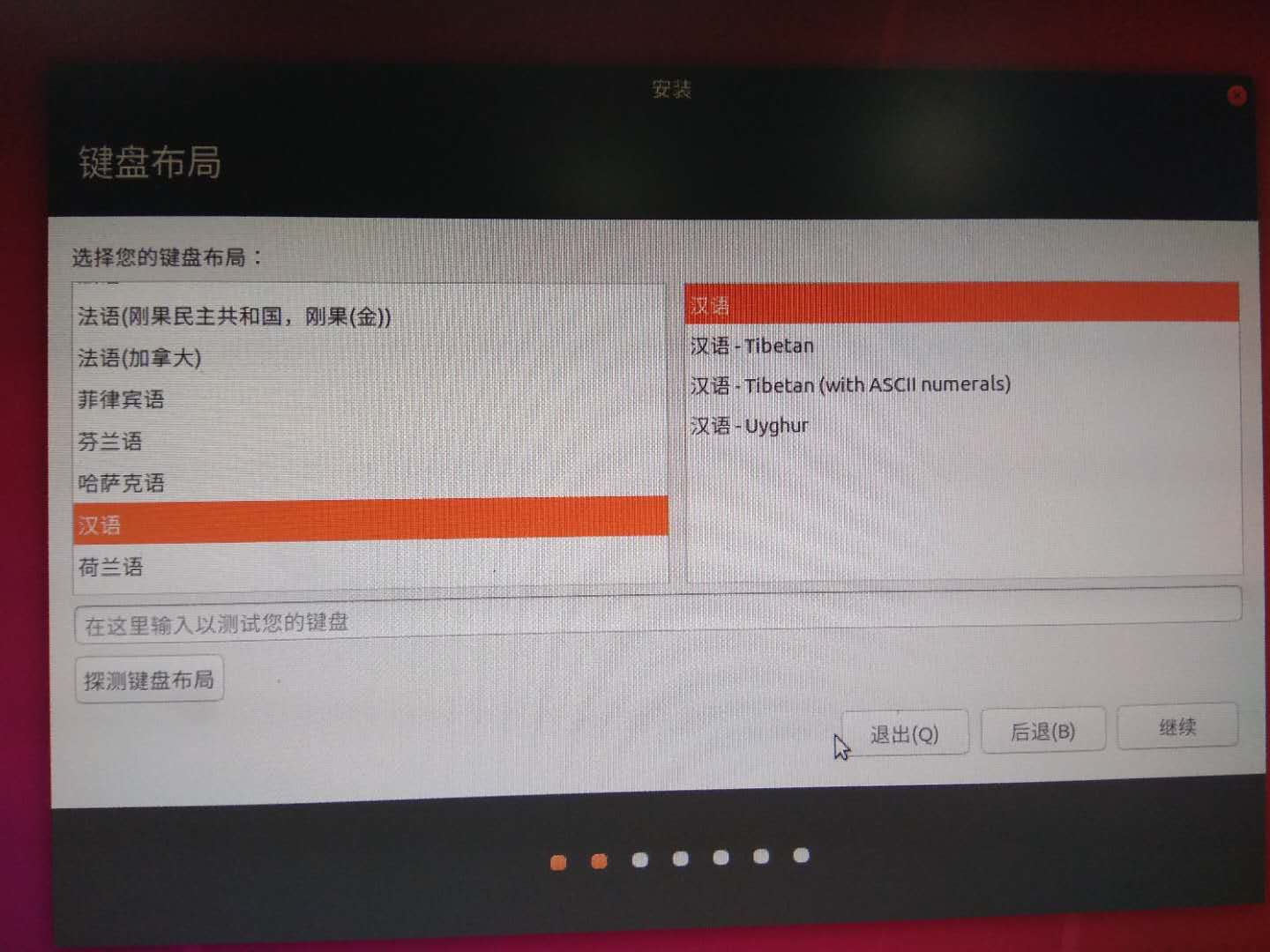
**2 系统设置[[2]](#footnote-2)**

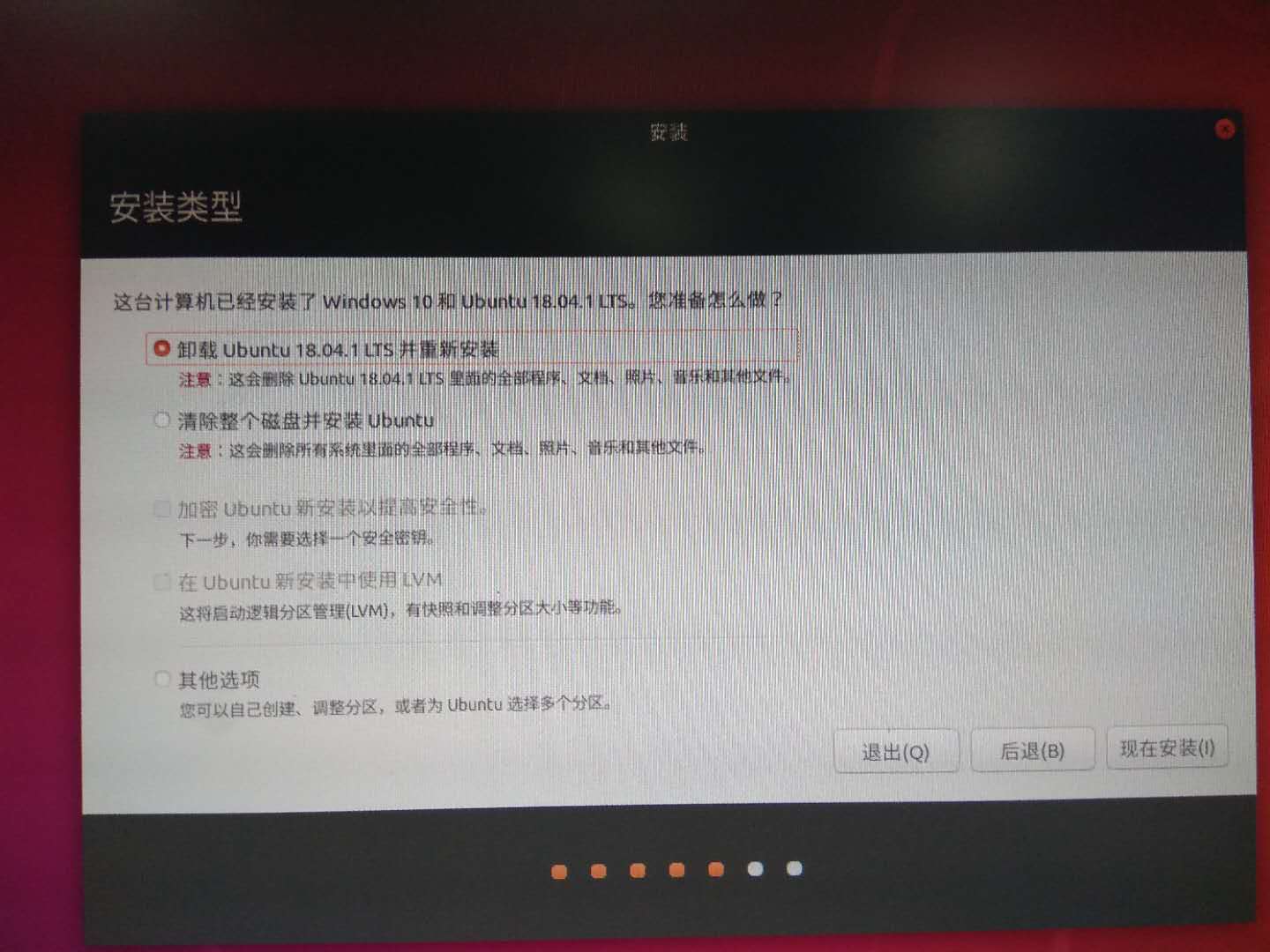
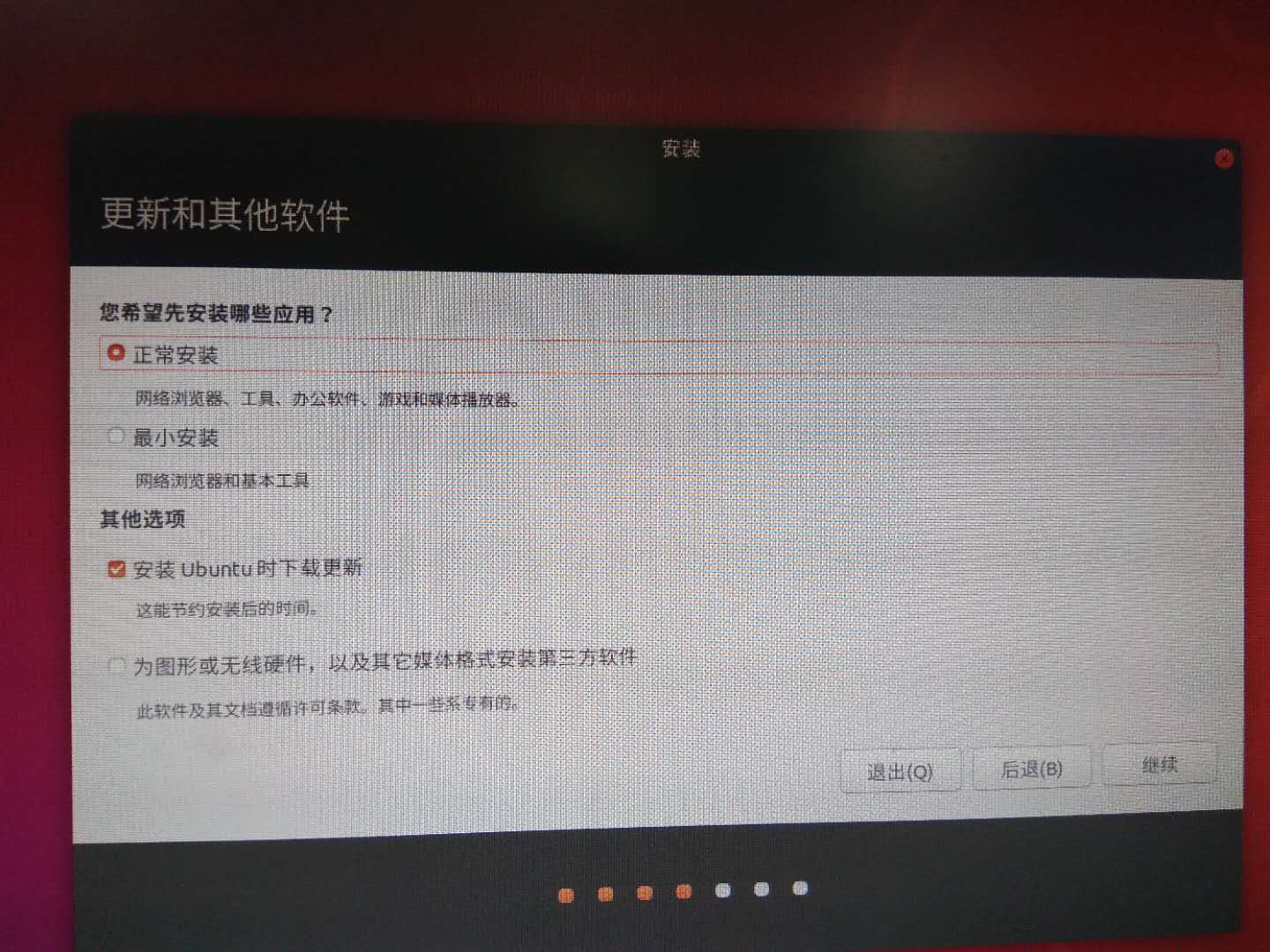
1. **双系统ubuntu的安装**

第一步：磁盘分区[[3]](#footnote-3)。分出来一个磁盘，用安装ubuntu。我从E盘里压缩出来了231GB的空间。

第二步：使用USB安装Ubuntu[[4]](#footnote-4)。

第三步：安装Ubuntu系统[[5]](#footnote-5)。将U盘插到电脑上，重启电脑，按F11选择电脑启动项的U盘启动。并不是所有的电脑都是F11，具体看电脑品牌（我的主机是微星）。

第四步：进入Ubuntu系统，选择语言为汉语安装Ubuntu->键盘布局选择语言为汉语->正常安装->选择安装ubuntu，与Windows 10共存（因为我已经安装了ubuntu，所以显示的是卸载ubuntu并重新安装）。

****

**（2）网络配置**

|  |  |  |  |
| --- | --- | --- | --- |
| 地址 | 子网掩码 | 网关 | DNS服务器 |
| 211.71.76.122 | 255.255.255.0 | 211.71.76.2 | 192.168.217.2 |

**（3）查看防火墙状态**

hui@hui-MS-7681:~$ sudo ufw status

状态：不活动

**（4）打开sshd服务 [[6]](#footnote-6)**

hui@hui-MS-7681:~$ dpkg -l | grep ssh

ii libssh-4:amd64 0.8.0~20170825.94fa1e38-1ubuntu0.1 amd64 tiny C SSH library (OpenSSL flavor)

ii openssh-client 1:7.6p1-4 amd64 secure shell (SSH) client, for secure access to remote machines

hui@hui-MS-7681:~$ sudo apt-get install ssh

hui@hui-MS-7681:~$ dpkg -l |grep ssh

**C:\Users\XiaoHuihui😊\Desktop\图片\2.png**hui@hui-MS-7681:~$ sudo /etc/init.d/ssh start

**（5）新建用户**hadoop.密码hadoop

由于ubuntu没有自带的vim，所以需要装上vim

hui@hui-MS-7681:~$ sudo apt-get install vim

hui@hui-MS-7681:~$ sudo adduser hadoop

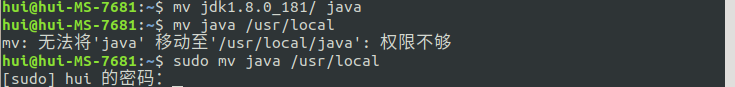
hui@hui-MS-7681:~$ sudo vim /etc/sudoers

#添加如下内容

hadoop ALL=(ALL:ALL) ALL

**C:\Users\XiaoHuihui😊\Desktop\图片\3.png（6）安装JDK**

1）解压缩并移动到/usr/local/java

hui@hui-MS-7681:~$ tar -zxvf jdk-8u181-linux-x64.tar.gz

2）配置java环境变量。

#修改 /etc/profile文件

hui@hui-MS-7681:/$ sudo vim /etc/profile

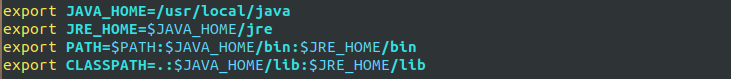
#添加如下内容：

export JAVA\_HOME=/usr/local/java

export JRE\_HOME=$JAVA\_HOME/jre

export PATH=$PATH:$JAVA\_HOME/bin:$JRE\_HOME/bin

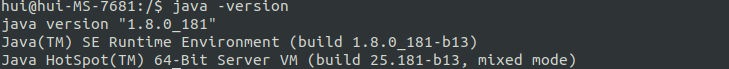
export CLASSPATH=.:$JAVA\_HOME/lib:$JRE\_HOME/lib

#保存配置后使用source命令使配置立即生效

hui@hui-MS-7681:/$ source /etc/profile

3)使用java –version 命令查看环境变量是否配置成功

hui@hui-MS-7681:/$ java -version

**（7）安装Hadoop[[7]](#footnote-7)**

1）解压并移动到/usr/local/hadoo

hui@hui-MS-7681:~$ tar -zxvf hadoop-2.8.4.tar.gz

hui@hui-MS-7681:~$ mv hadoop-2.8.4 hadoop

hui@hui-MS-7681:~$ sudo mv hadoop /usr/local

2）修改core-site.xml

hui@hui-MS-7681:/usr/local/hadoop$ vim etc/hadoop/core-site.xml

#添加如下内容

<configuration>

<property>

<name>hadoop.tmp.dir</name>

<value>file:/usr/local/hadoop/tmp</value>

<description>Abase for other temporarydirectories</description>

</property>

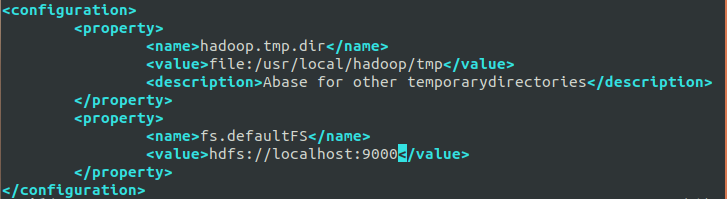
<property>

<name>fs.defaultFS</name>

<value>hdfs://localhost:9000</value>

</property>

</configuration>

3)修改hdfs-site.xml

hui@hui-MS-7681:/usr/local/hadoop$ vim etc/hadoop/hdfs-site.xml

#添加如下内容

<configuration>

<property>

<name>dfs.replication</name>

<value>1</value>

</property>

<property>

<name>dfs.namenode.name.dir</name>

<value>file:/usr/local/hadoop/tmp/dfs/name</value>

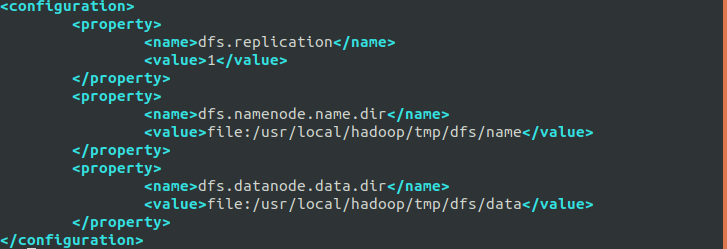
</property>

<property>

<name>dfs.datanode.data.dir</name>

<value>file:/usr/local/hadoop/tmp/dfs/data</value>

</property>

</configuration>

4)修改hadoop-env.sh

hui@hui-MS-7681:/usr/local/hadoop$ vim etc/hadoop/hadoop-env.sh

#修改JAVA\_HOME的地址为对应的jdk安装目录

export JAVA\_HOME=/usr/local/java

C:\Users\XiaoHuihui😊\Desktop\图片\9.png5）安装yarn

#编辑配置文件

hadoop@hui-MS-7681:/usr/local/hadoop/etc/hadoop$mv mapred-site.xml.template mapred-site.xml

hadoop@hui-MS-7681:/usr/local/hadoop/etc/hadoop$ sudo vim mapred-site.xml

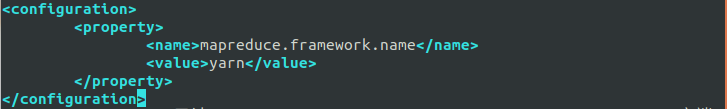
<configuration>

<property>

<name>mapreduce.framework.name</name>

<value>yarn</value>

</property>

</configuration>

hadoop@hui-MS-7681:/usr/local/hadoop/etc/hadoop$ sudo vim yarn-site.xml

<configuration>

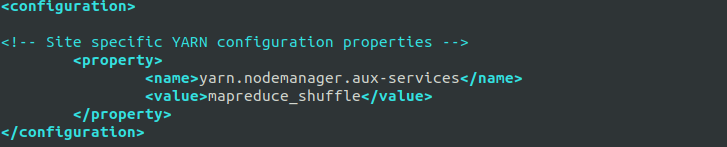
<!-- Site specific YARN configuration properties -->

<property>

<name>yarn.nodemanager.aux-services</name>

<value>mapreduce\_shuffle</value>

</property>

</configuration>

#修改yarn-env.sh

hadoop@hui-MS-7681:/usr/local/hadoop/etc/hadoop$ sudo vim yarn-env.sh

#添加如下内容

export JAVA\_HOME=/usr/local/java

6）格式化hdfs

hadoop@hui-MS-7681:/usr/local/hadoop$ ./bin/hdfs namenode –format

7)设置hadoop用户对/usr/local文件夹的权限

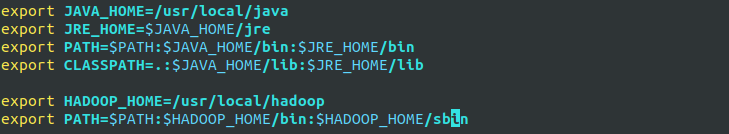
hadoop@hui-MS-7681:/usr/local/hadoop$ sudo chown -R hadoop /usr/local

8)配置环境变量

hadoop@hui-MS-7681:/usr/local/hadoop$ sudo vim /etc/profile

#添加如下内容

export HADOOP\_HOME=/usr/local/hadoop

export PATH=$PATH:$HADOOP\_HOME/bin:$HADOOP\_HOME/sbin

#使用命令source使配置立即生效

hadoop@hui-MS-7681:/usr/local/hadoop$ source /etc/profile

8)启动hdfs

hadoop@hui-MS-7681:/usr/local/hadoop$ start-dfs.sh

9）启动yarn

[hadoop@localhost hadoop]$ start-yarn.sh

**（8）安装zookeeper[[8]](#footnote-8)**

1）解压并移动到/usr/local/zookeeper

hadoop@hui-MS-7681:/home/hui$ sudo tar -zxvf zookeeper-3.4.10.tar.gz

hadoop@hui-MS-7681:/home/hui$ sudo mv zookeeper-3.4.10 zookeeper

hadoop@hui-MS-7681:/home/hui$ sudo mv zookeeper /usr/local

2）修改配置文件Zoo.cfg

hadoop@hui-MS-7681:/usr/local/zookeeper/conf$ cp zoo\_sample.cfg zoo.cfg

hadoop@hui-MS-7681:/usr/local/zookeeper/conf$ vim zoo.cfg

#修改如下内容

dataDir=/usr/local/zookeeper/data

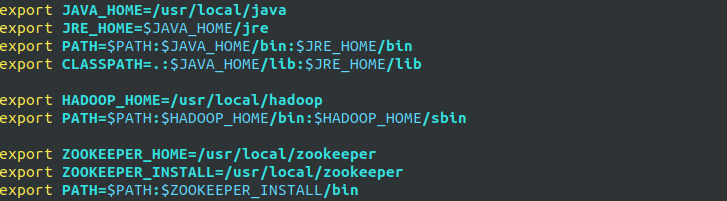
C:\Users\XiaoHuihui😊\Desktop\图片\13.png3)配置环境变量/etc/profig

hadoop@hui-MS-7681:/usr/local/zookeeper$ sudo vim /etc/profile

#添加如下内容

export ZOOKEEPER\_HOME=/usr/local/zookeeper

export ZOOKEEPER\_INSTALL=/usr/local/zookeeper

export PATH=$PATH:$ZOOKEEPER\_INSTALL/bin

#立即生效

hadoop@hui-MS-7681:/usr/local/zookeeper$ source /etc/profile

4）启动Zookeeper.

zkServer.sh start

zkServer.sh status

**（9）安装Hbase[[9]](#footnote-9)**

1）解压并移动到/usr/local/hbase

hadoop@hui-MS-7681:/home/hui$ sudo tar -zxvf hbase-1.2.6-bin.tar.gz

hadoop@hui-MS-7681:/home/hui$ sudo mv hbase-1.2.6 hbase

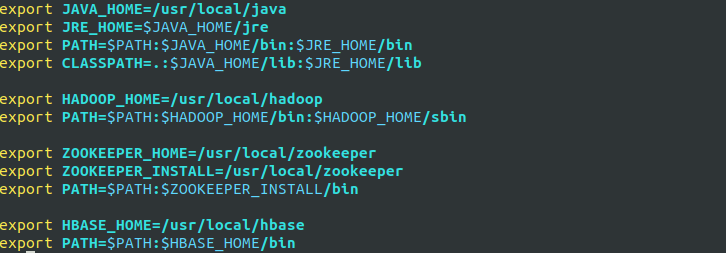
hadoop@hui-MS-7681:/home/hui$ sudo mv hbase /usr/local

2）配置环境变量

hadoop@hui-MS-7681:/usr/local$ sudo vim /etc/profile

#添加如下内容

export HBASE\_HOME=/usr/local/hbase

export PATH=$PATH:$HBASE\_HOME/bin

#执行source命令使上述配置在当前终端立即生效

hadoop@hui-MS-7681:/usr/local$ source /etc/profile

3）编辑配置文件 hbase-env.sh,hbase-site.xml

hadoop@hui-MS-7681:/usr/local/hbase$ sudo vim conf/hbase-env.sh

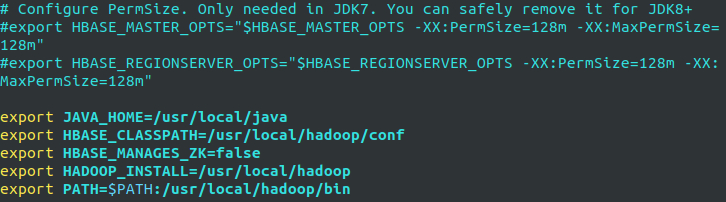
#将export HBASE\_MASTER\_OPTS和export HBASE\_REGIONSERVER\_OPTS注释掉，添加如下export

export JAVA\_HOME=/usr/local/java

export HBASE\_CLASSPATH=/usr/local/hadoop/conf

export HBASE\_MANAGES\_ZK=false

export HADOOP\_INSTALL=/usr/local/hadoop

export PATH=$PATH:/usr/local/hadoop/bin

hadoop@hui-MS-7681:/usr/local/hbase$ sudo vim conf/hbase-site.xml

#添加如下内容

<configuration>

<property>

<name>hbase.zookeeper.property.dataDir</name>

<value>/usr/local/zookeeper</value>

</property>

<property>

<name>hbase.rootdir</name>

<value>hdfs://localhost:9000/hbase</value>

</property>

<property>

<name>hbase.cluster.distributed</name>

<value>true</value>

</property>

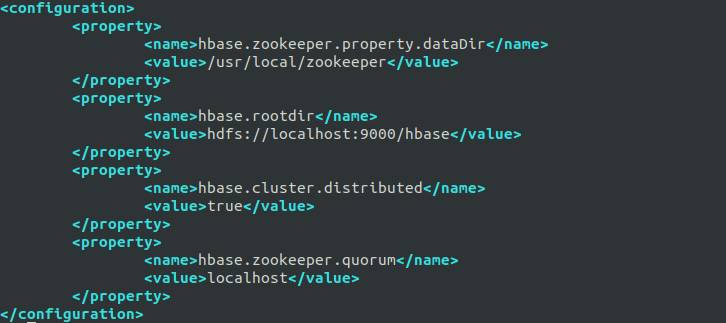
<property>

<name>hbase.zookeeper.quorum</name>

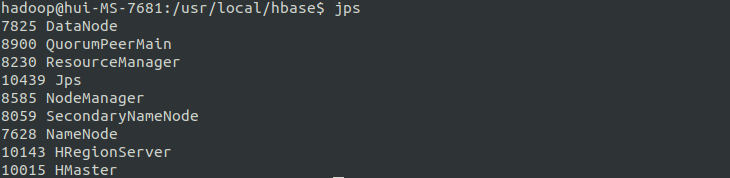
<value>localhost</value>

</property>

</configuration>

4)启动Hbase

hadoop@hui-MS-7681:/usr/local/hbase$ start-hbase.sh

**（10）安装Mysql[[10]](#footnote-10)**

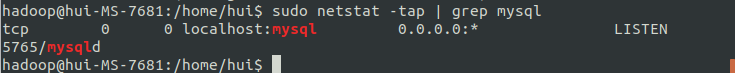
1）更新软件源,安装mysql

hadoop@hui-MS-7681:/home/hui$ sudo apt-get update

hadoop@hui-MS-7681:/home/hui$ sudo apt-get install mysql-server

2）安装net-tools包,用于检查mysql是否启动成功

hadoop@hui-MS-7681:/home/hui$ sudo apt-get install net-tools

hadoop@hui-MS-7681:/home/hui$ sudo netstat -tap | grep mysql

3)关闭/启动Mysql

[root@localhost /]# service mysql stop/start

4)设置root密码[[11]](#footnote-11)

#以root用户登录mysql

hadoop@hui-MS-7681:/home/hui$ sudo su

root@hui-MS-7681:/home/hui# mysql

mysql> select user, plugin from mysql.user;

mysql> update mysql.user set authentication\_string=PASSWORD('123456'), plugin='mysql\_native\_password' where user='root';

mysql> flush privileges;

mysql> exit;

4)用root用户登录

#切换为hadoop用户

root@hui-MS-7681:/home/hui# su hadoop

hadoop@hui-MS-7681:/home/hui$ mysql -u root -p

Enter password:

5)配置hive使用mysql来存储hive的元数据

mysql> create database hive;

mysql> grant all on \*.\* to hive@localhost identified by '123456';

mysql> flush privileges;

mysql> quit;

**（11）安装Hive[[12]](#footnote-12)**

1）解压并移动到/usr/local/hive

hadoop@hui-MS-7681:/home/hui$ sudo tar -zxvf apache-hive-1.2.2-bin.tar.gz

hadoop@hui-MS-7681:/home/hui$ sudo mv apache-hive-1.2.2-bin hive

hadoop@hui-MS-7681:/home/hui$ sudo mv hive /usr/local

2)修改配置文件hive-env.sh

[root@localhost conf]# mv hive-env.sh.template hive-env.sh

[hadoop@localhost conf]$ sudo vim hive-env.sh

[sudo] password for hadoop:

#添加如下内容

export HADOOP\_HOME=/usr/local/hadoop

export HIVE\_CONF\_DIR=/usr/local/hive/conf

C:\Users\XiaoHuihui😊\Desktop\图片\20.png3) 将mysql的驱动jar包添加到$hive\_home的lib目录下

hadoop@hui-MS-7681:/home/hui$ cp mysql-connector-java-5.1.34.jar /usr/local/hive/lib

4)修改配置文件hive-site.xml

[hadoop@localhost conf]$ sudo touch hive-site.xml

[hadoop@localhost conf]$ sudo vim hive-site.xml

#添加如下内容

<?xml version="1.0"?>

<?xml-stylesheet type="text/xsl" href="configuration.xsl"?>

<configuration>

<property>

<name>javax.jdo.option.ConnectionURL</name>

<value>jdbc:mysql://localhost:3306/hive?createDatabaseIfNotExist=true</value>

<description>JDBC connect string for a JDBC metastore</description>

</property>

<property>

<name>javax.jdo.option.ConnectionDriverName</name>

<value>com.mysql.jdbc.Driver</value>

<description>Driver class name for a JDBC metastore</description>

</property>

<!--这是配置数据库的用户名-->

<property>

<name>javax.jdo.option.ConnectionUserName</name>

<value>root</value>

<description>username to use against metastore database</description>

</property>

<!--这是配置数据库的密码-→

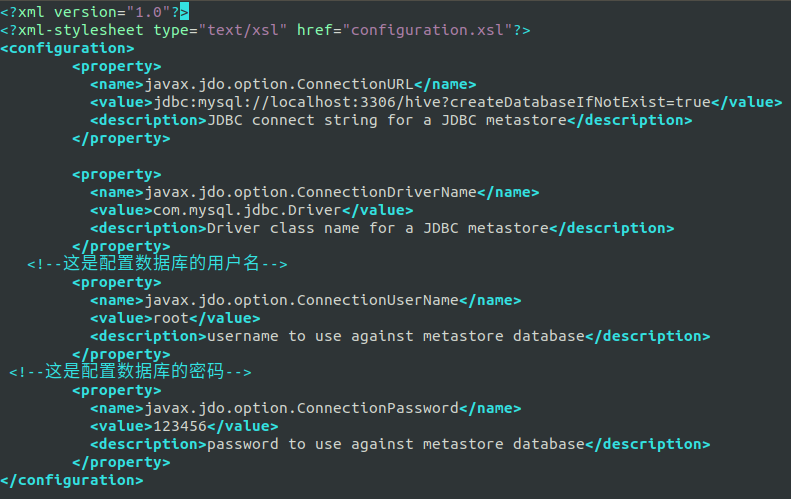
<property>

<name>javax.jdo.option.ConnectionPassword</name>

<value>123456</value>

<description>password to use against metastore database</description>

</property>

</configuration>

5)配置环境变量

hadoop@hui-MS-7681:/usr/local/hive/conf$ sudo vim /etc/profile

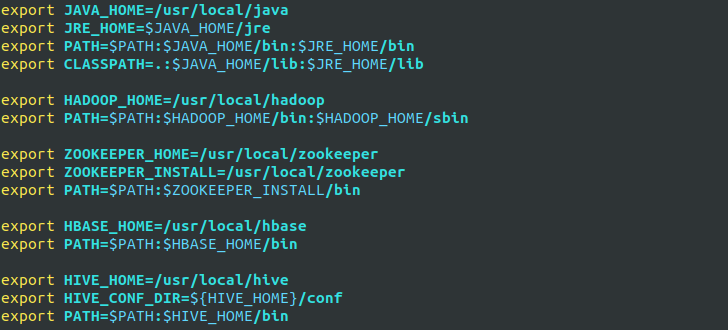
hadoop@hui-MS-7681:/usr/local/hive/conf$ source /etc/profile

#添加如下内容

export HIVE\_HOME=/usr/local/hive

export HIVE\_CONF\_DIR=${HIVE\_HOME}/conf

export PATH=$PATH:$HIVE\_HOME/bin

6)启动hive

在HDFS上创建/tmp和/user/hive/warehouse两个目录并修改他们的同组权限可写

hadoop@hui-MS-7681:/usr/local$ ./hadoop/bin/hadoop fs -mkdir /tmp

hadoop@hui-MS-7681:/usr/local$ ./hadoop/bin/hadoop fs -mkdir -p /user/hive/warehouse

hadoop@hui-MS-7681:/usr/local$ ./hadoop/bin/hadoop fs -chmod g+w /tmp

hadoop@hui-MS-7681:/usr/local$ ./hadoop/bin/hadoop fs -chmod g+w /user/hive/warehouse

[hadoop@localhost hive]$ ./bin/hive

**（12）安装kylin[[13]](#footnote-13)**

1）下载与解压。

hadoop@hui-MS-7681:/usr/local/hive$ cd /home/hui

hadoop@hui-MS-7681:/home/hui$ sudo tar -zxvf apache-kylin-2.3.1-hbase1x-bin.tar.gz

hadoop@hui-MS-7681:/home/hui$ sudo mv apache-kylin-2.3.1-bin kylin

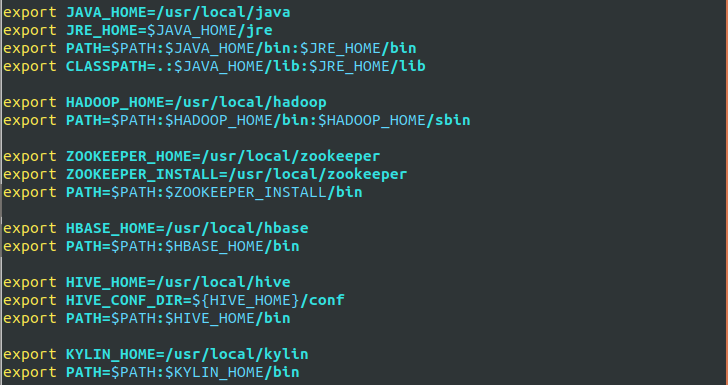
hadoop@hui-MS-7681:/home/hui$ sudo mv kylin /usr/local

2）配置环境变量

hadoop@hui-MS-7681:/home/hui$ sudo vim /etc/profile

#添加如下内容

export KYLIN\_HOME=/usr/local/kylin

export PATH=$PATH:$KYLIN\_HOME/bin

hadoop@hui-MS-7681:/home/hui$ source /etc/profile

3）修改kylin.properties文件

hadoop@hui-MS-7681:/usr/local/kylin/conf$ sudo vim kylin.properties

#添加如下内容

kylin.metadata.url=/usr/local/kylin

kylin.server.mode=all

C:\Users\XiaoHuihui😊\Desktop\图片\24.png3）修改kylin.sh文件

hadoop@hui-MS-7681:/usr/local/kylin$ cp -r /usr/local/hive/lib/. ./lib/

hadoop@hui-MS-7681:/usr/local/kylin$ vim ./bin/kylin.sh

D:\图片\ll.png#添加:{hive\_dependency}

4）启动kylin

[hadoop@localhost kylin]$ .kylin.sh start

5）关闭kylin

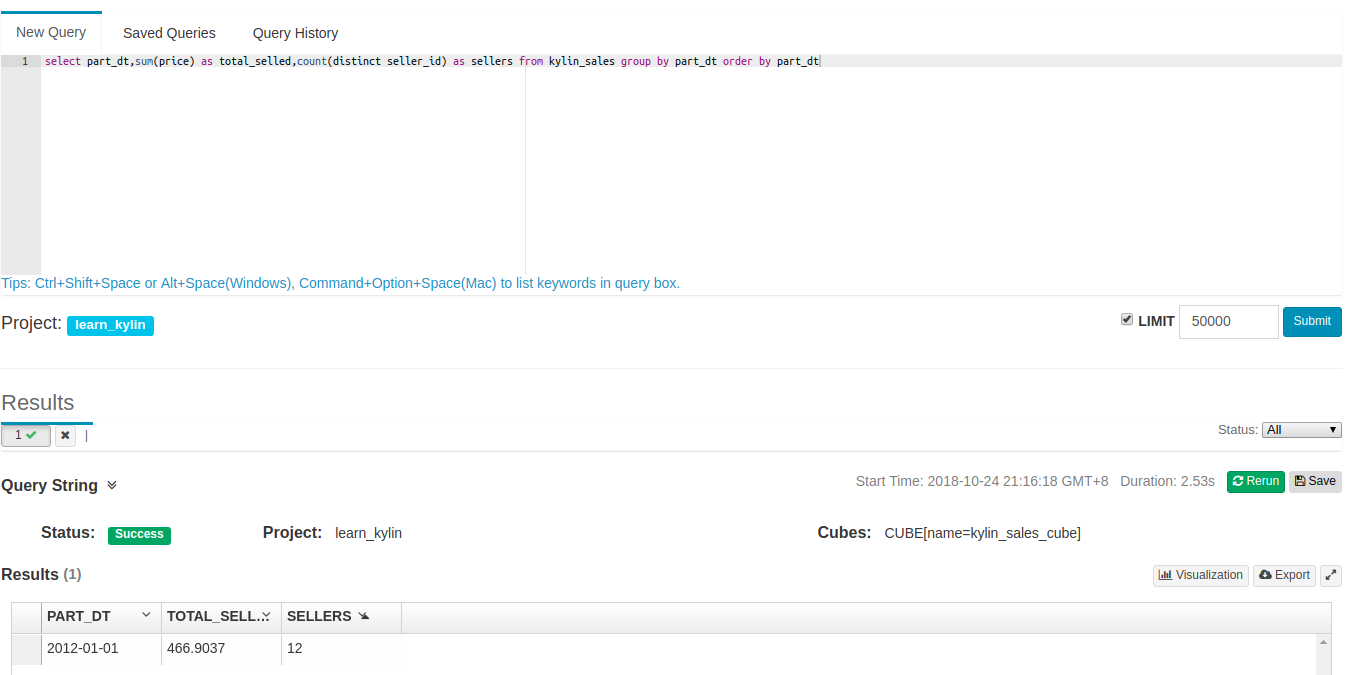
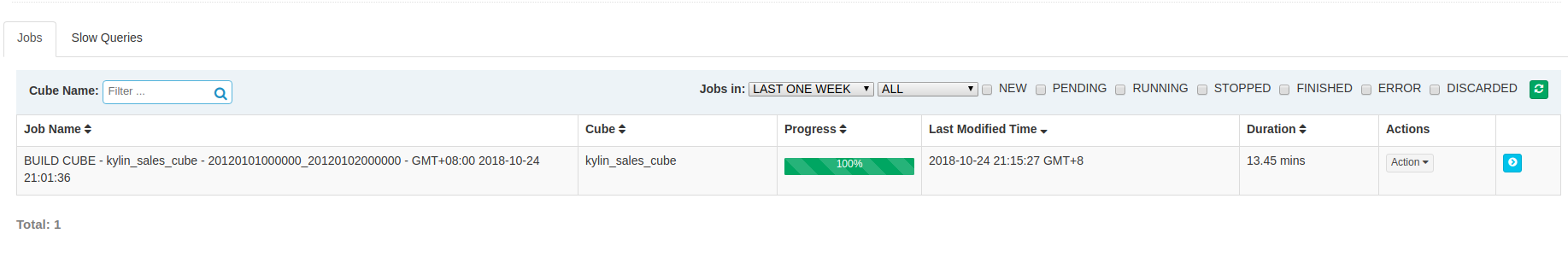
[hadoop@localhost kylin]$ kylin.sh stop

**3 启动kylin[[14]](#footnote-14)**

运行kylin必须要启动的服务：

|  |  |  |
| --- | --- | --- |
| 服务 | 命令 | 进程名称 |
| ssh | sudo /etc/init.d/ssh start |  |
| mysql | sudo service mysqld start |  |
| Hadoopd的hdfs | start-dfs.sh | SecondaryNameNode  DataNode  NameNode |
| Hadoop的yarn | start-yarn.sh | ResourceManager  SecondaryNameNode |
| Hadoop的jobhistory | $HADOOP\_HOME/sbin/mr-jobhistory-daemon.sh start historyserver | JobHistoryServer |
| zookeeper | zkServer.sh start | QuorumPeerMain |
| hbase | start-hbase.sh | Hmaster  HRegionServer |

**4 运行示例[[15]](#footnote-15)**

**运行结果展示**

**5 问题总结**

Mysql安装过程中遇到的问题：

**（1）第一次安装mysql[[16]](#footnote-16)**

1）更新软件源,安装mysql

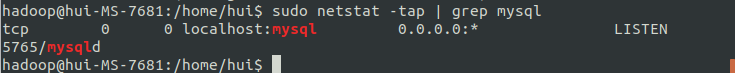
hadoop@hui-MS-7681:/home/hui$ sudo dpkg -i mysql-apt-config\_0.8.10-1\_all.deb

hadoop@hui-MS-7681:/home/hui$ sudo apt-get update

hadoop@hui-MS-7681:/home/hui$ sudo apt-get install mysql-server

2）安装net-tools包,用于检查mysql是否启动成功

hadoop@hui-MS-7681:/home/hui$ sudo apt-get install net-tools

hadoop@hui-MS-7681:/home/hui$ sudo netstat -tap | grep mysql

3)关闭/启动Mysql

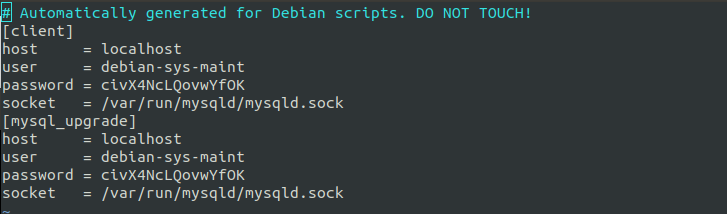
[root@localhost /]# service mysql stop/start

4)登录mysql

#查看登录的用户名和密码

hadoop@hui-MS-7681:/home/hui$ sudo vim /etc/mysql/debian.cnf

#user = debian-sys-maint

#password = civX4NcLQovwYfOK

#登录

hadoop@hui-MS-7681:/home/hui$ mysql -u debian-sys-maint -p

#修改root用户密码

mysql> update mysql.user set authentication\_string=password('root') where user='root'and Host = 'localhost';

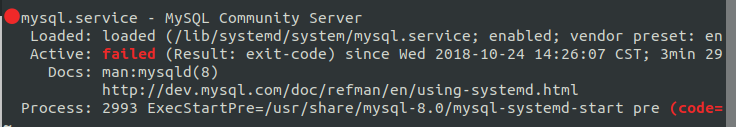
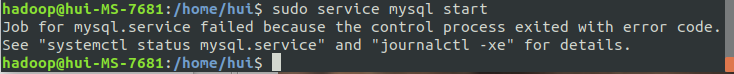
mysql> flush privileges;

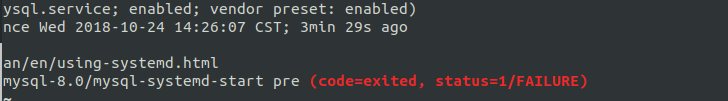
这种方式安装mysql过程中并没有设置root用户的密码，虽然后面更改了密码，但是用root用户登录还是显示密码错误，卸载了mysql换另一种方式重新装。

**（2）第二次安装mysql[[17]](#footnote-17)**

下载mysql-apt-config.deb包，通过APT安装。安装过程中选择了默认的配置（最新的mysql），设置了root密码，但是在查看启动状态时，有两个mysql在运行。可能原因是第一次安装的mysql没有卸载干净，所以再次进行卸载。

**（3）第三次安装mysql**

同样以第二种安装方式安装。安装过程中选择mysql5.7，发现安装过程中没有配置root密码，所以还是没有卸载干净。启动异常。再次进行卸载[[18]](#footnote-18)。

**（4）第四次安装mysql[[19]](#footnote-19)**

通过root用户进入mysql更改密码，安装成功。

**6 后续任务**

继续学习kylin官方文档的相关教程，运行自己的实例。

1. 此hadoop环境为伪分布式 [↑](#footnote-ref-1)
2. 本机Windows 10 专业版，4核处理器，8GB内存，64位操作系统 [↑](#footnote-ref-2)
3. 参考：https://blog.csdn.net/flyyufenfei/article/details/79187656 [↑](#footnote-ref-3)
4. 参考：https://tutorials.ubuntu.com/tutorial/tutorial-create-a-usb-stick-on-windows?\_ga=2.242174530.1746861324.1507700161-1586045268.1507700161#0 [↑](#footnote-ref-4)
5. 参考：https://morvanzhou.github.io/tutorials/others/linux-basic/1-2-install/ [↑](#footnote-ref-5)
6. 参考：https://jingyan.baidu.com/article/e75057f20b4c27ebc81a8953.html [↑](#footnote-ref-6)
7. 参考https://blog.csdn.net/weixin\_42404727/article/details/81029771

   https://blog.csdn.net/Alen\_Liu\_SZ/article/details/80628596 [↑](#footnote-ref-7)
8. 参考：https://blog.csdn.net/u013274055/article/details/77456623 [↑](#footnote-ref-8)
9. 参考：http://www.voidcn.com/article/p-prszkadr-vt.html [↑](#footnote-ref-9)
10. 参考：http://dblab.xmu.edu.cn/blog/install-mysql/ [↑](#footnote-ref-10)
11. 参考：https://blog.csdn.net/lynnyq/article/details/80296137?utm\_source=blogxgwz0 [↑](#footnote-ref-11)
12. 参考：https://blog.csdn.net/student\_\_software/article/details/81584729 [↑](#footnote-ref-12)
13. 参考：<http://kylin.apache.org/cn/docs23/install/index.html> https://blog.csdn.net/clarke0922/article/details/80521694 [↑](#footnote-ref-13)
14. 参考：http://chengjianxiaoxue.iteye.com/blog/2218510 [↑](#footnote-ref-14)
15. 参考官方文档：<http://kylin.apache.org/cn/docs23/tutorial/kylin_sample.html> [↑](#footnote-ref-15)
16. 参考https://blog.csdn.net/flyfish111222/article/details/52808464 [↑](#footnote-ref-16)
17. 参考：<https://www.cnblogs.com/EasonJim/p/7147787.html> [↑](#footnote-ref-17)
18. 参考：https://blog.csdn.net/pythondafahao/article/details/80158802?utm\_source=blogxgwz2 [↑](#footnote-ref-18)
19. ：参考：<https://blog.csdn.net/lynnyq/article/details/80296137?utm_source=blogxgwz0> [↑](#footnote-ref-19)